INVESTMENT APPRAISAL (5.9)

(Chapter 36 - A level 5.9)

Investment is the act of spending now with the hope of an improved return in the future. In a business context it could mean spending on new machinery, new factories, marketing campaigns and so on.

Investment appraisal is the analysis that considers the profitability of an investment project.

- Uses both *quantitative factors* (costs, potential profits etc.) and *qualitative factors* (the environment, publicity etc.) to determine if the future returns on projects will be greater than the costs and by how much
- Compares the *forecasted net cash flows* (inflows being sales and outflows being costs) of an investment project with the original investment, so basically showing how much of a profit you're predicted to make
- This helps assess how great of a risk an investment is

Factors that influence an investment decision :

- **The initial capital cost**, initial amount of money invested (quantitative)
- **Life expectancy of the project**, how many years returns can be expected from the investment (quantitative)
- **The residual value of investment**, how much the assets can be sold for once they're no longer needed (quantitative)
- **The forecasted cash inflows and outflows**, sales and costs(quantitative)
- **The impact on the community and environment** (qualitative)
- **The aims and objectives of the business**, expansion etc. (qualitative)
- **The amount of risk that managers are willing to take** (qualitative)

Methods of investment appraisal

The five methods of investment appraisal are :

- Payback period
- Accounting rate of return
- Discounted payback
- Net present value
- Internal rate of return

Payback method

Calculates the amount of time it takes for the net cash inflows (sales) to pay back the original capital cost of investment.

(✔) Widely used, as its quick and easy to understand
(✔) Managers can compare the payback period of projects to see which are best
(✔) The result can be used to eliminate any projects that will take too long to payback OG costs

(✖) Too simple to be reliable on it's own, used alongside other investment appraisal methods
(✖) Doesn't take into account cash flow after payback period (focuses short term not long term)

Accounting rate of return method

Is a formula that reflects the percentage rate of the overall return expected on an investment or asset, compared to the initial investment's cost. Basically how much total profit is e

$$\text{ARR}(\%) = \frac{\text{annual profit (net cash flow)}}{\text{initial capital cost}} \times 100$$

(✔) Focuses on the overall net cash flow, unlike the payback method
(✔) Some business set a minimum acceptable rate for projects, this can be compared with other projects to determine which ones are most worthwhile
(✔) Easy to understand and calculate

(✖) It ignores the timing of the cash flows. So two projects can have similar ARR results, but one could pay back much more quickly than the other (so used alongside payback method)

Discounted payback method

Similar to payback method, where it calculates the amount of time it takes for net cash inflows to pay back the original investment, but the calculation involves discounted cash flows.

This method recognises that cash flow could be overestimated due to the **time value of money** - the concept that a sum of money is worth more now than the same sum will be at a future date.

Net present value method

This method again uses discounted cash flows, it is used to determine the current value of all future cash flows generated by a project, including the initial capital investment. It is widely used in capital budgeting to establish which projects are likely to turn the greatest profit.
(✔) It considers both size and timing of cash flows
(✔) It considers time value of money
(✔) The rate of discount can be varied to allow for different economic circumstances (recession)

(✖) Can be difficult to understand
(✖) Can make it difficult to compare projects

Internal rate of return (IRR)

The rate (%) of discount that will lead to a **net present value of zero** - which means the project is not expected to result in any significant gain or loss for the company.

- Net present value greater than 0 means the project is worth investing in
- Net present value less than 0 means the project is not worth investing in

The higher the IRR, the more profitable the investment project is. It can be difficult to calculate and understand.

Possible limitations of investment appraisal :

- ➔ The numerical methods listed above don't take into account the qualitative factors that should also affect investment decisions
- ➔ Calculations require data that is up to date and accurate
- ➔ Risk is difficult to assess and attitudes to risk can vary within an organisation (those who are willing to risk a lot and those who are more cautious.)